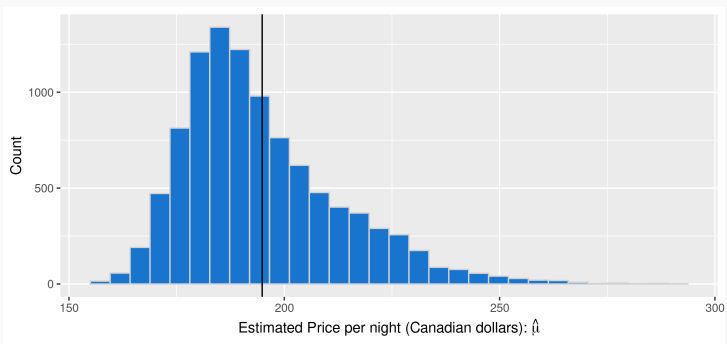


Dataset

Recall our running example from previous classes:¹

- We're interested in the mean price of AirBNBs in our city (μ)
- We can't observe them all, so we take the mean price of a sample of 200 ($\hat{\mu}$)

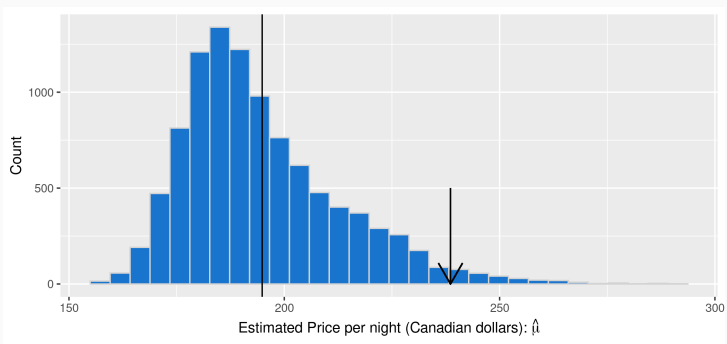


¹Taken from Chapter 10 of "Data Science: A First Introduction" by Timbers, Campbell, and Lee
<https://ubc-dsci.github.io/introduction-to-datascience/>

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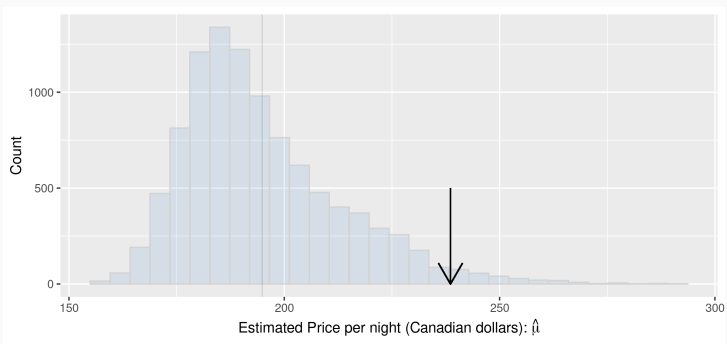


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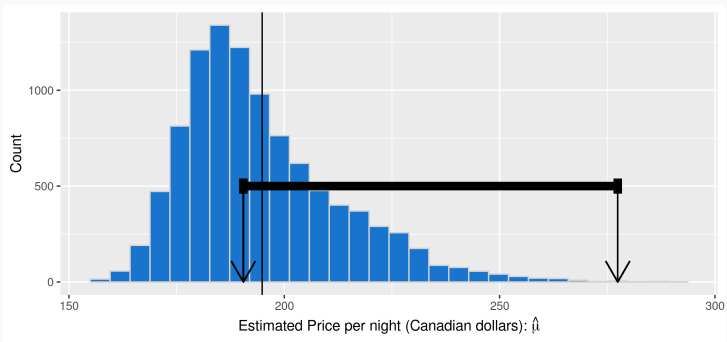
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Key idea:

Instead of a “point estimate” $\hat{\mu}(X)$, estimate an interval $(\hat{\mu}_{lower}(X), \hat{\mu}_{upper}(X))$.



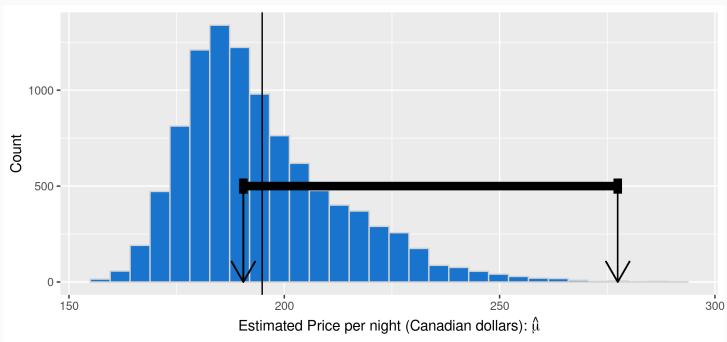
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We would like to choose our interval such that:

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Such an interval is a **valid confidence interval** with a **level** of 0.9.



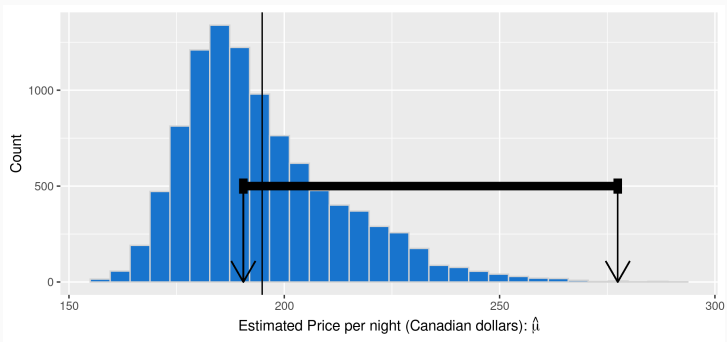
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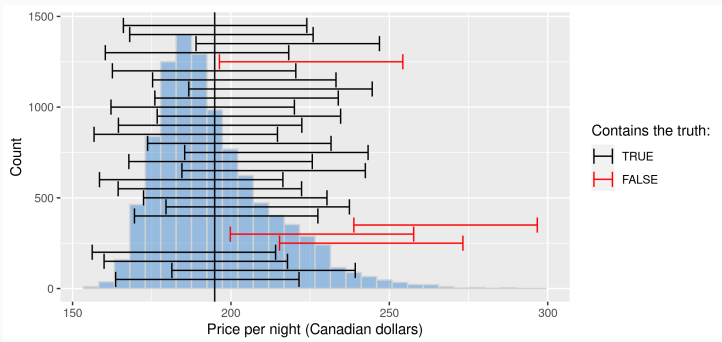
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Question: Is $(-\infty, \infty)$ a valid confidence interval with level 0.9?

